Lesson Topic 1.2

WATERTIGHT CLOSURES FUNCTION AND DESCRIPTION

Introduction

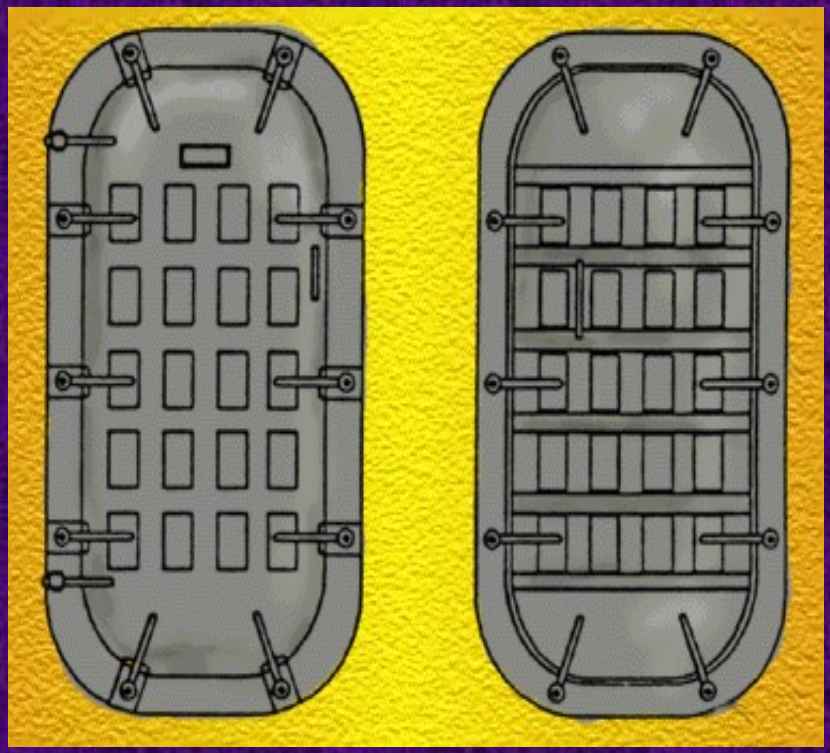
There are many different types of watertight closures used on Navy ships. As maintenance or repair activity personnel you will be required to know the function and description of these watertight closures.

Enabling Objectives

Describe the types of Watertight Closures in accordance with DAMAGE CONTROL WATERTIGHT CLOSURES INSPECTION, MAINTENANCE AND REPAIR BOOKLET and PMS requirements

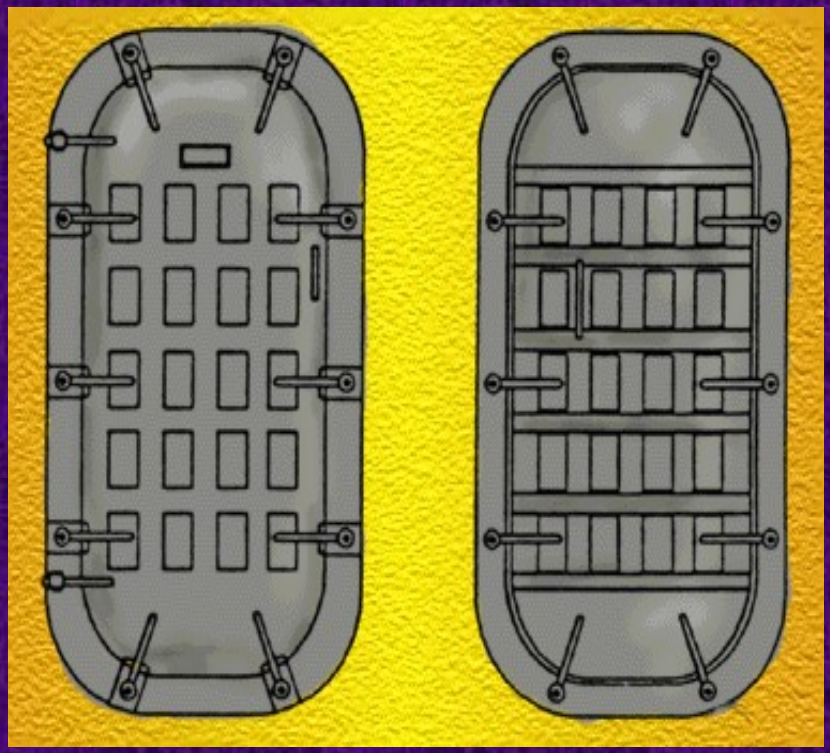
Individually Dogged Watertight Door

- Provide access/egress to compartments that are not high usage spaces and do not require rapid egress such as:
  - paint lockers
  - fan rooms
  - storerooms



Individually Dogged Watertight Door

- Contain either 4, 6, 8, 10 or 12 dogged doors



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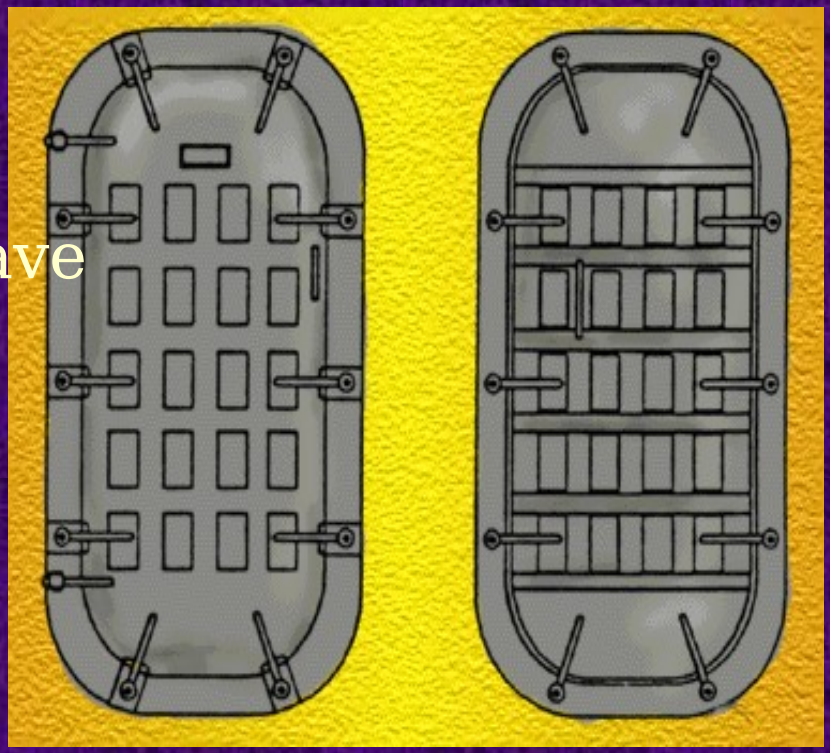
NOTE: Below deck, doors have 10 to 12 dogs

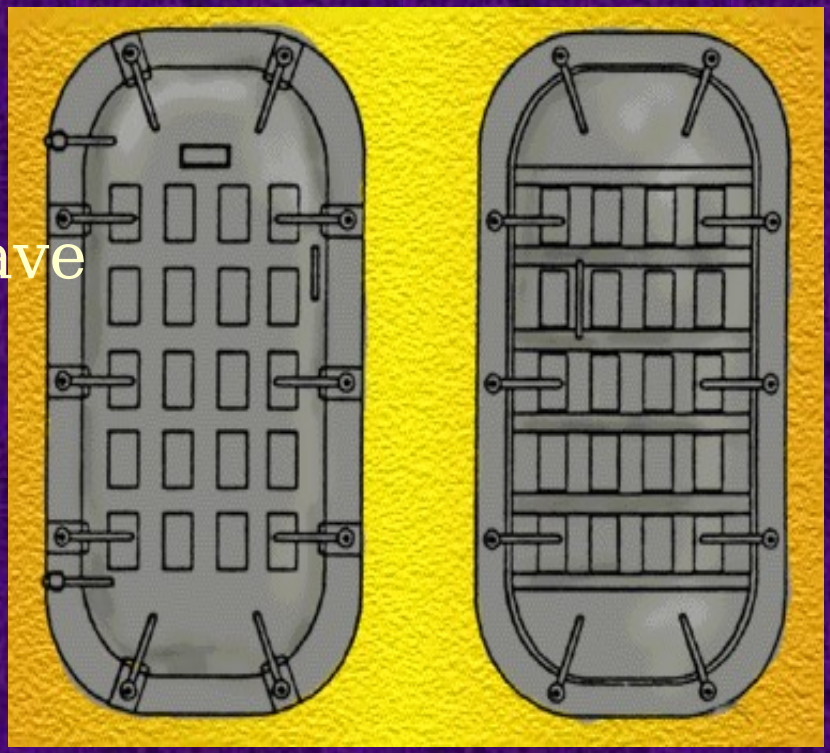


Individually Dogged Watertight Door

- Contain either 4, 6, 8, 10 or 12 dogged doors

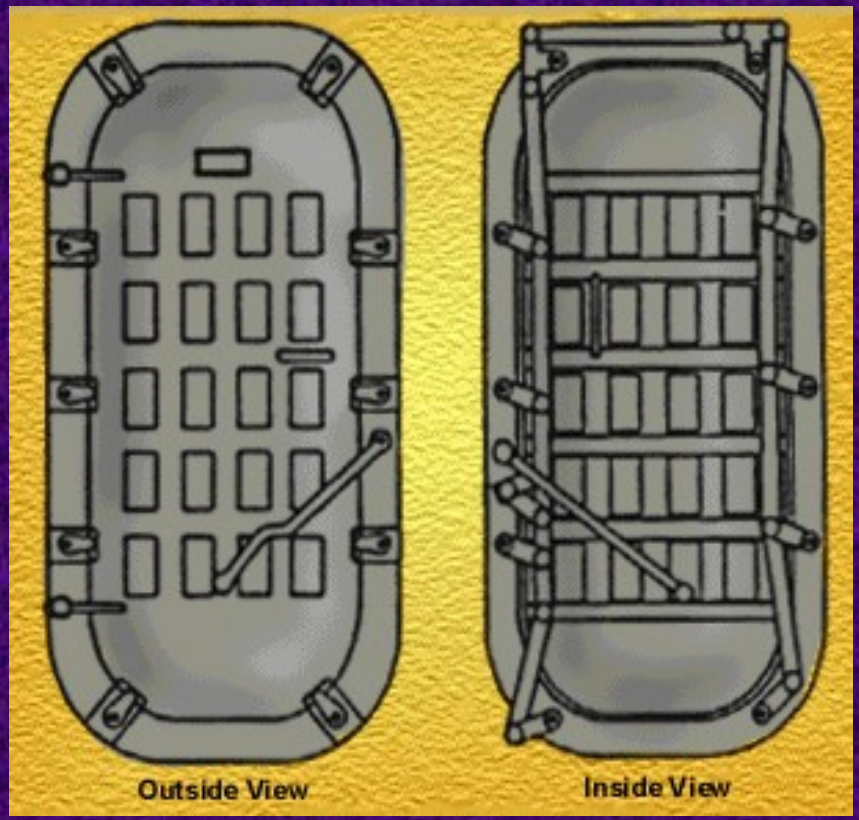
NOTE: Below deck, doors have 10 to 12 dogs

CAUTION: Doors must be dogged/undogged properly to avoid warpage



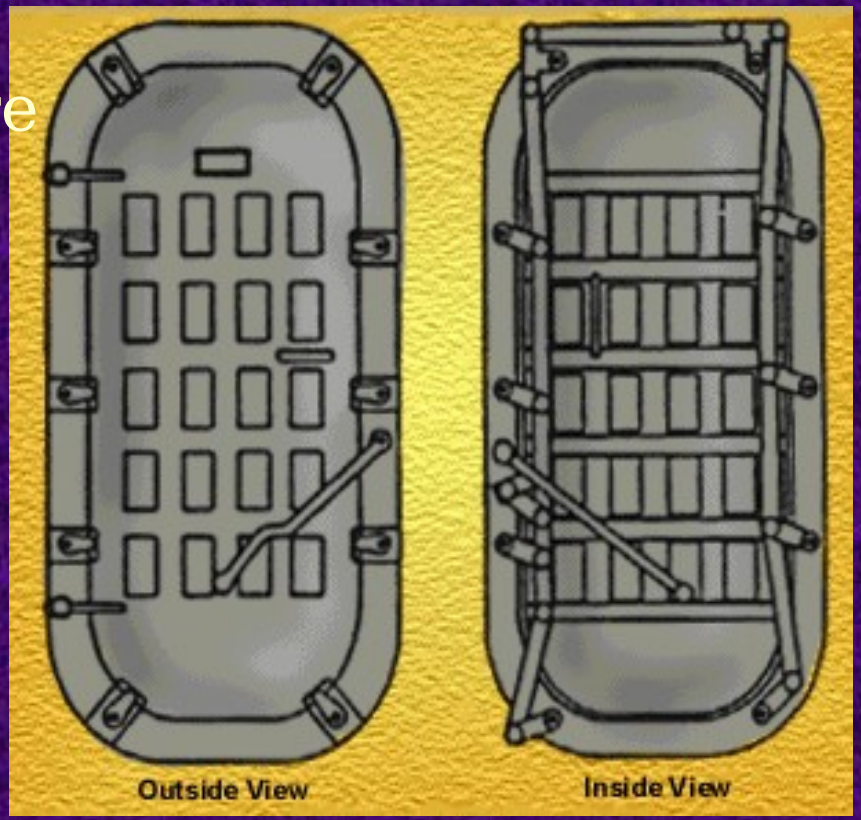
Quick Acting Watertight Doors

- Used for routine passage and access/egress into the superstructure from such areas as:
  - weather decks
  - main passageways
  - Combat Information Center (CIC)
  - Radio Central
  - Machinery Control or Damage Control Central (DCC)



Quick Acting Watertight Doors

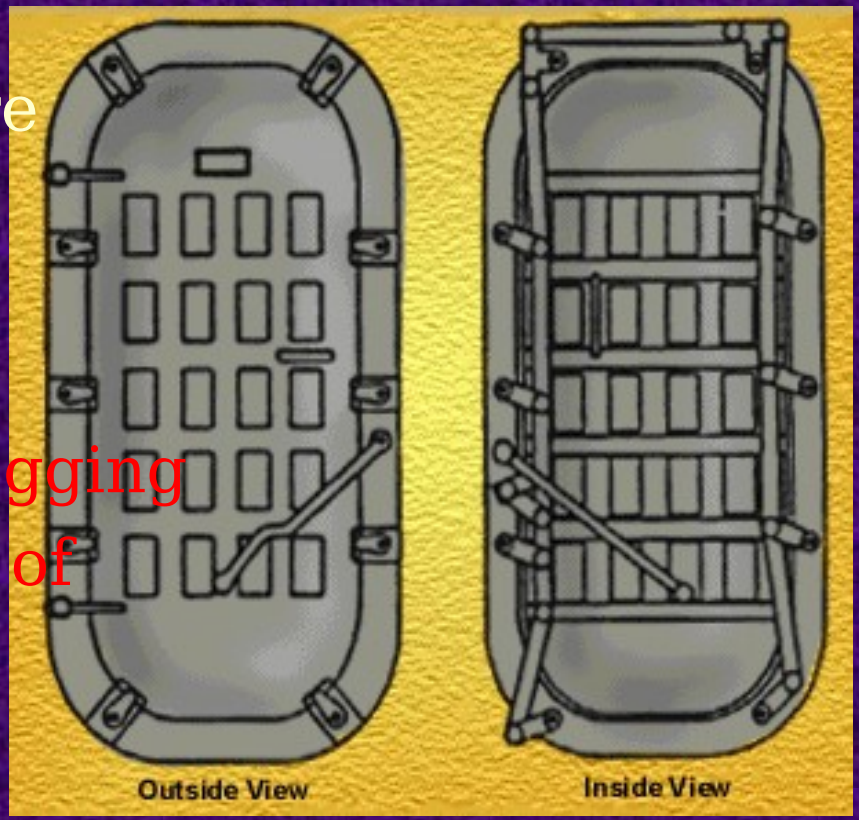
NOTE: High traffic and weather deck doors require constant attention.



Quick Acting Watertight Doors

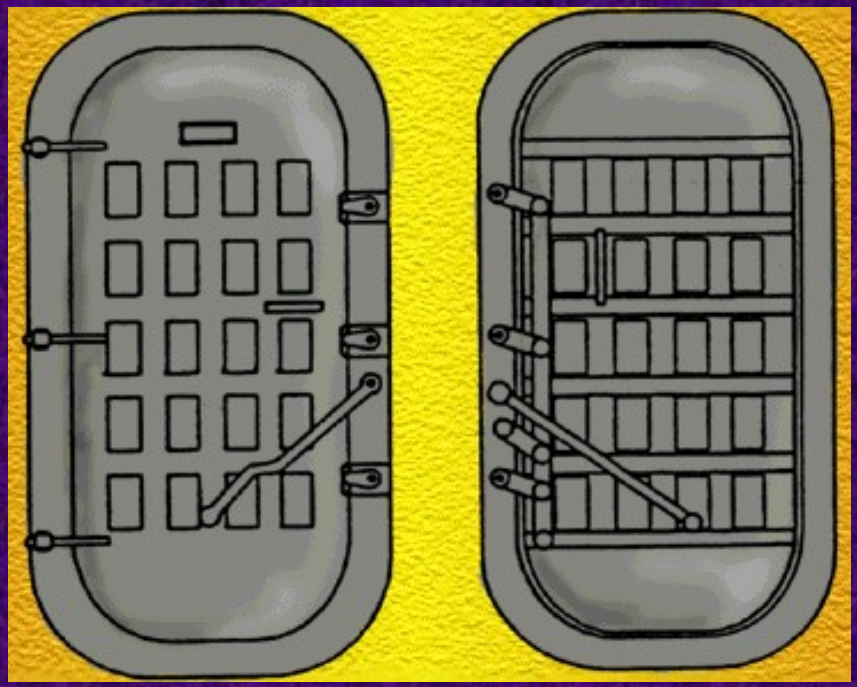
NOTE: High traffic and weather deck doors require constant attention.

CAUTION: Doors must be shut completely before dogging to avoid destruction/wear of door edge and wedges.



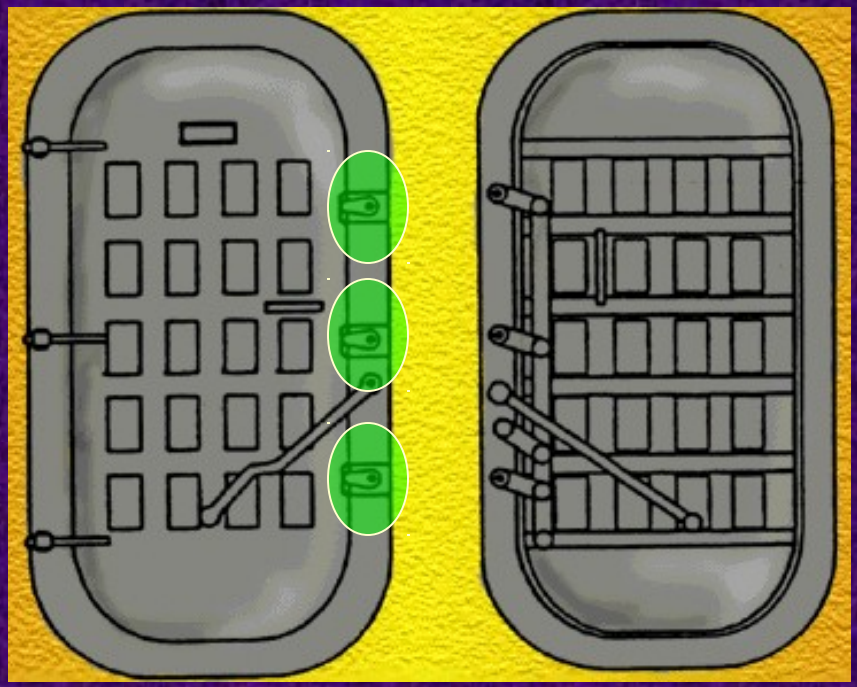
Quick Acting Airtight Doors

- Similar to quick acting watertight doors.
- Typically installed outside of the watertight structure or above the main deck where easy access/egress is required, such as:
  - passageways
  - offices
  - berthing spaces



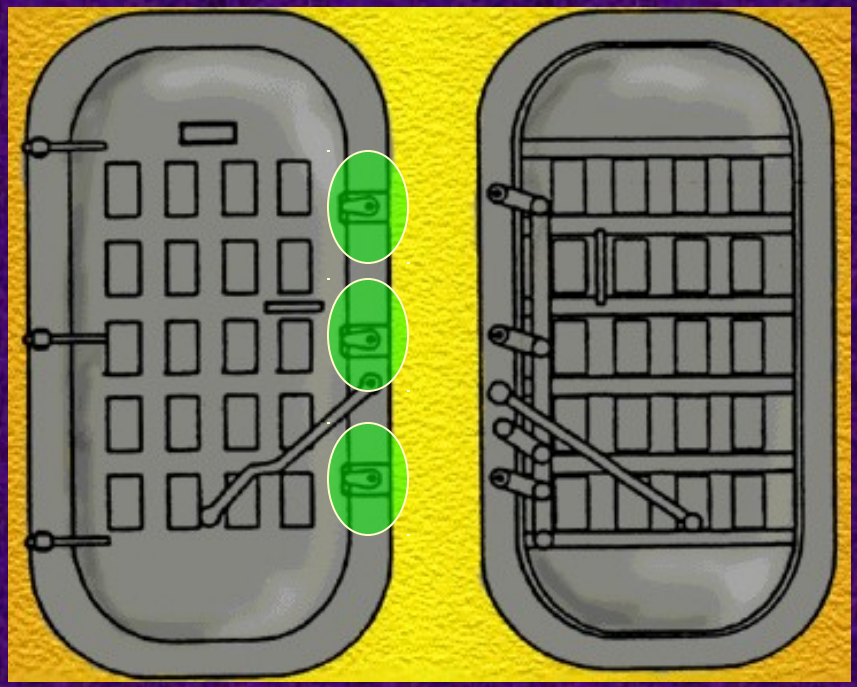
Quick Acting Airtight Doors

- Door has three dogs on the handle side and no dogs on the hinge side.



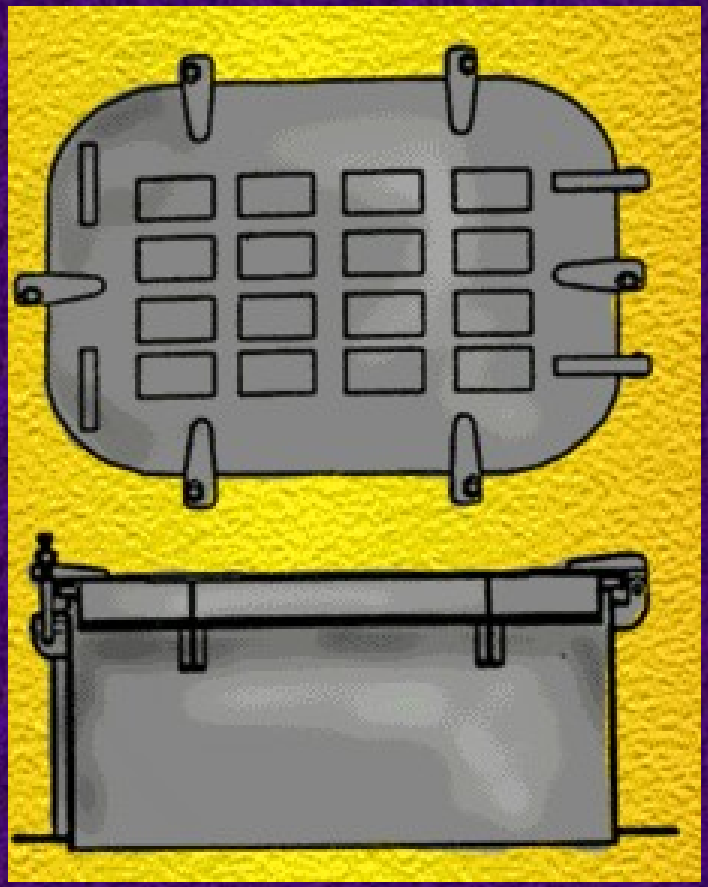
Quick Acting Airtight Doors

- Door has three dogs on the handle side and no dogs on the hinge side.
- Designed to prevent the spread of fire, toxic vapors and smoke in the event of shipboard casualties.



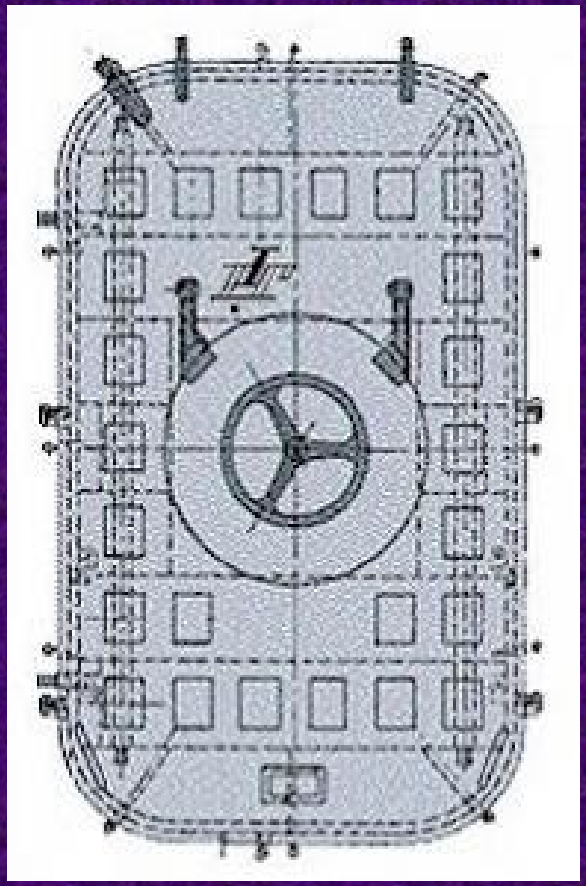
Raised Watertight Hatches

- Installed in interior and exterior areas where rapid access/egress is not required.
- Usually found in a low traffic and offset in a corner of a passageway or compartment.



Raised Watertight Hatches with Scuttles

- Installed in interior and exterior areas where rapid access/egress is required.
- Usually provided in higher traffic areas than the Raised Watertight Hatch.
- These hatches have escape scuttles to provide rapid access/egress.
- Found above berthing compartments, manned & unmanned machinery spaces.

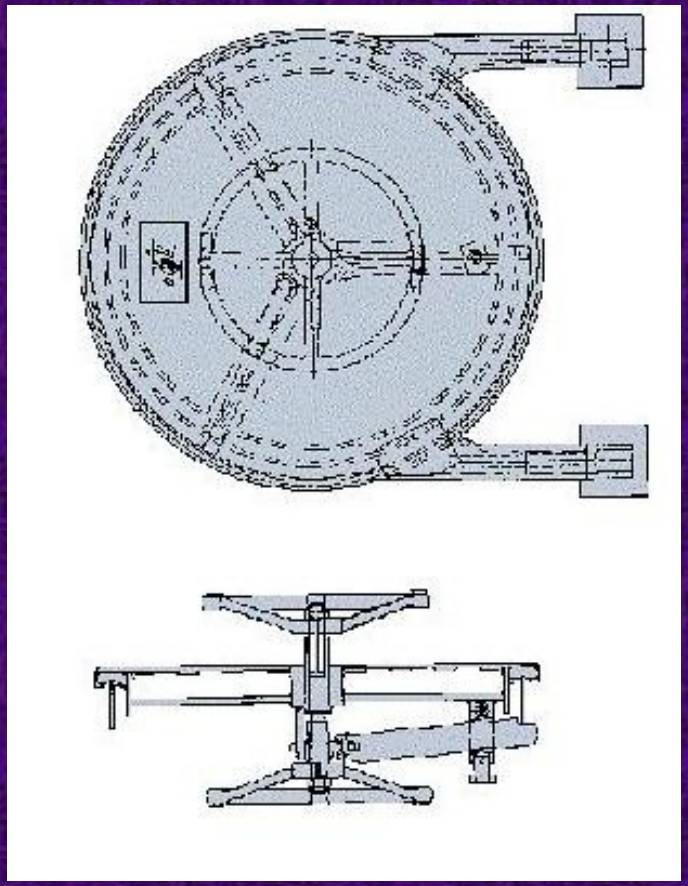


Raised Watertight Scuttles

- Installed in interior and exterior areas and offset in a corner out of high traffic areas.
- Placed where rapid access/egress is required.
- May be used as an alternate access to manned or unmanned spaces.

Flush Watertight Scuttles

- Installed in areas with high traffic to eliminate tripping hazards or a smooth trucking surface, such areas include:
  - flight decks
  - cargo decks
  - hangar decks
  - passageways



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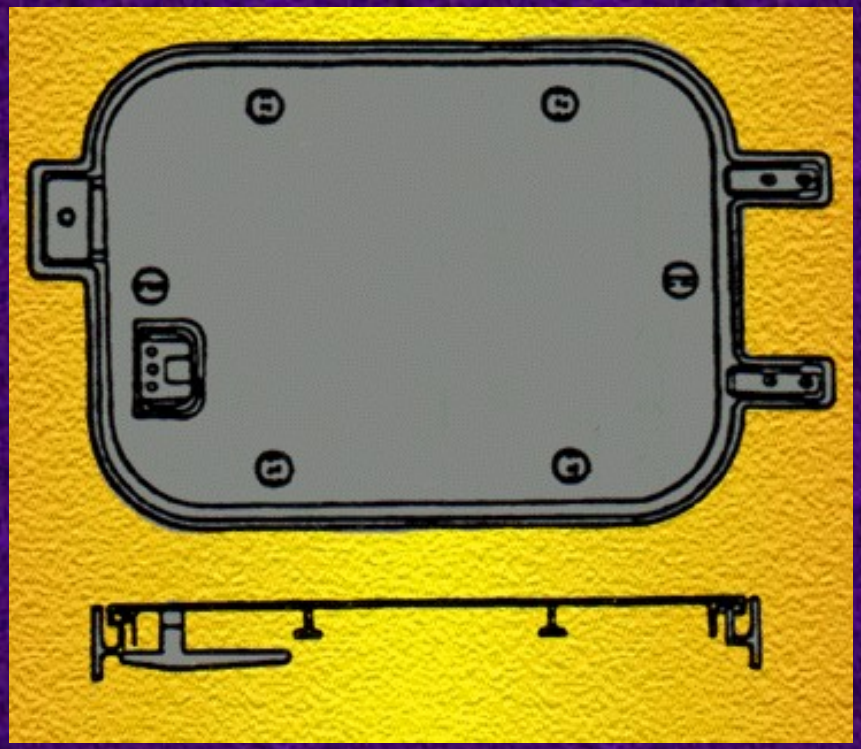
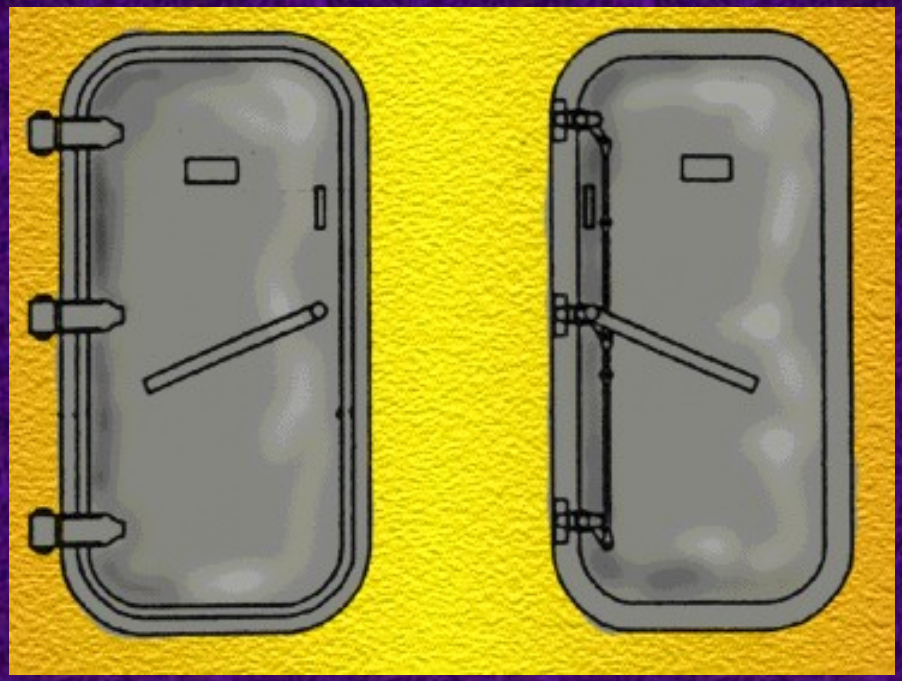


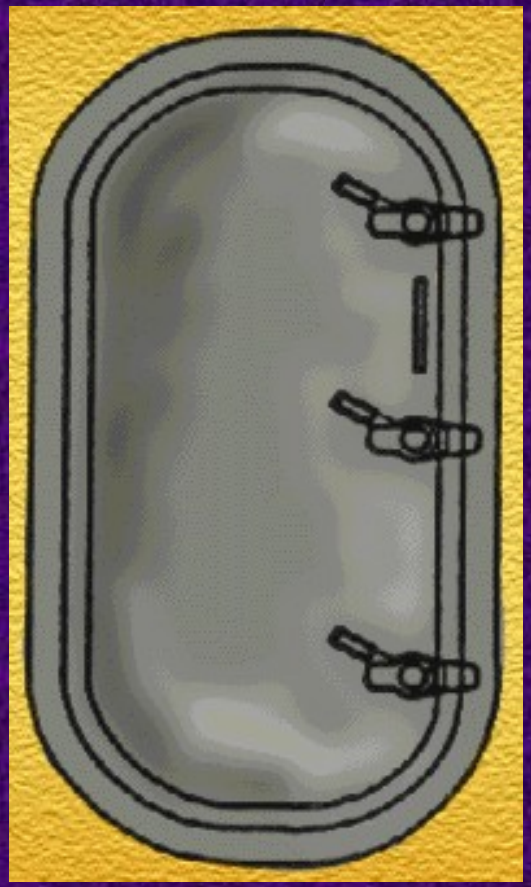
Ballistic Door, Watertight Quick Acting

- Installed in ballistic armored bulkheads and are the same thickness and material as the plating in which they are fitted.
- Provided where rapid access is required.
- Normally have three dogs and three hinges.



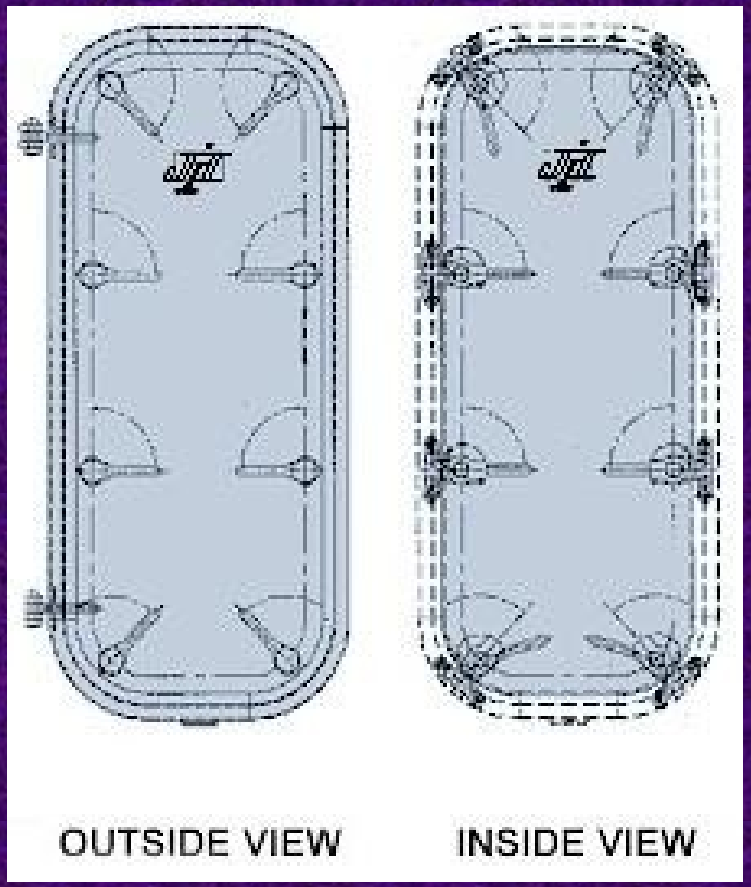
Ballistic Door, Watertight, Individually Dogged (3 Dog Door)

- Installed in ballistic armored bulkheads and are the same thickness and material as the plating in which they are fitted.
- Provided where rapid access/egress is not required.
- Normally have three dogs and three hinges.



Ballistic Door, Watertight, Individually Dogged

- Installed in ballistic armored bulkheads and are the same thickness and material as the plating in which they are fitted.
- Provided where rapid access/egress is not required.
- Many different designs and types, from 8 to 28 dogs.



Glass Reinforced Plastic (GRP) Quick Acting and Individually Dogged Watertight Doors

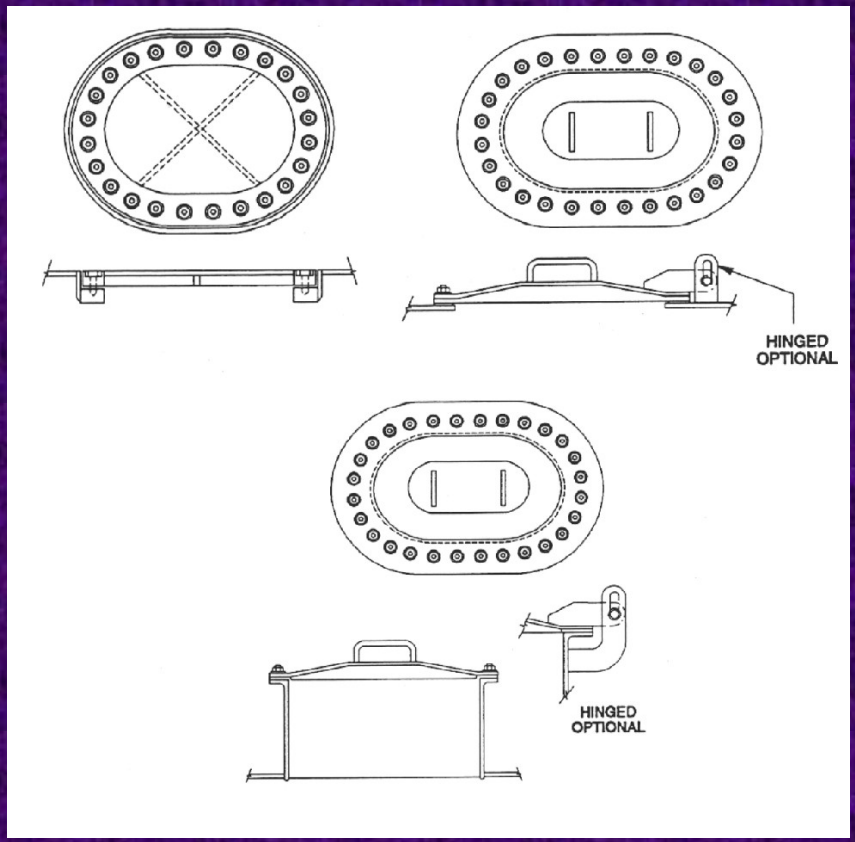
- These doors are primarily used on minesweeping class ships in order to reduce their magnetism signature.

NOTE: These doors must meet all the requirements for Quick Acting Watertight Doors.

Special Closures

Manhole covers

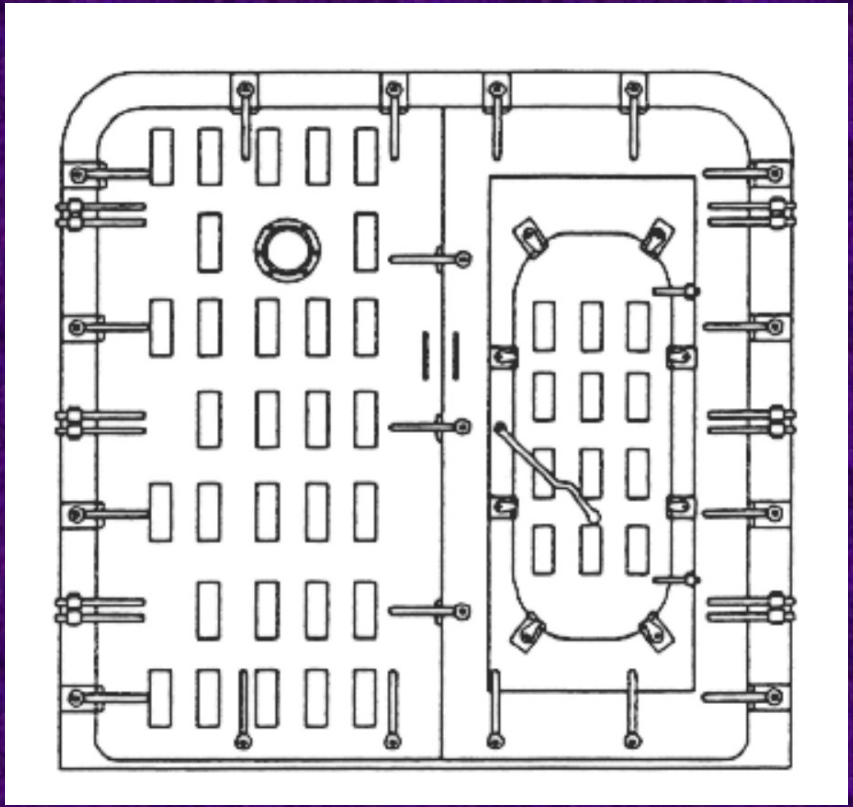
- Provide access to tanks, voids and cofferdams.
- Provide watertight and airtight integrity.



Special Closures

Doors Within Doors

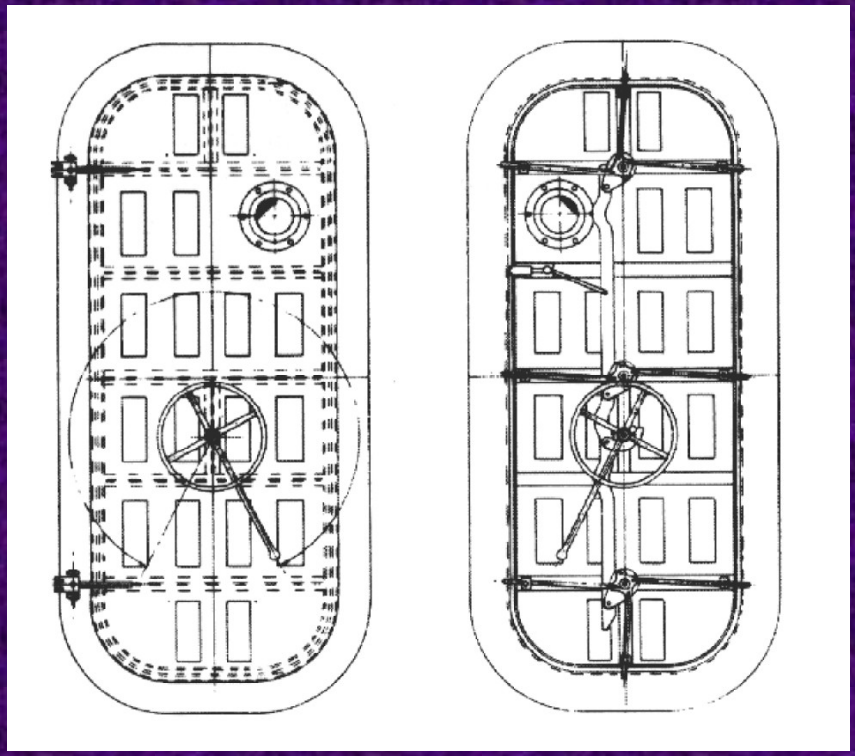
- Typically installed inside of the watertight envelope where large access is required for the movement of cargo, machinery, or vehicle storage spaces.



Special Closures

Sliding Dog Doors

- Typically located where easy access/egress is required.
- On aircraft carriers these closures are found on the second deck in both longitudinal and transverse bulkheads, passageways, and mess (galley) decks.



REVIEW & SUMMARY

Review & Summary

1) How many dogs will you find on an individually dogged door below decks?

Review & Summary

(10 or 12)

Review & Summary

2) Where might you find doors within doors?

Review & Summary

(Inside watertight envelope)

Review & Summary

3) What type of door allows rapid access or egress

Review & Summary

(Quick acting)

Review & Summary

4) What type of hatch allows rapid access of egress from or to a space?

Review & Summary

(Raised watertight hatches w/scuttles)

Review & Summary

5) Where will you find flush deck scuttles?

Review & Summary

(In areas of high traffic to prevent tripping)

Review & Summary

6) How thick is the quick acting ballistic door?

Review & Summary

(Same thickness and material as the plating in which they are installed)

Lesson Topic 1.2, Watertight Closures Function and Description